Model PDF
Perforated Diffusers

Introduction

KMC perforated diffusers have been designed to provide superior performance characteristic with application flexibility.

These diffusers provide horizontal air pattern with a strong coanda effect against the ceiling.

Louvered air pattern controllers located at the inlet neck of the diffuser provide positive air flow control.

The pattern controllers simply directs the air flow without restricting the air volume.

A wide range of Inlet sizes and module sizes are available.

Application

• Supply air diffuser that provides a horizontal air pattern along the ceiling

• Excellent VAV characteristics for maintaining pattern at reduced air flow

• Designed for constant or variable air volume heating, cooling, or ventilating

• Suitable for suspended grid system installations

Product Features

• GI construction powder coated to RAL 9010 as standard

• Core consists of 4 stamped, curved blade deflectors that are neck mounted and off the face to help mask appearance from the room

• Field configurable 1, 2, 3, or 4 way blow patterns without changes in sound or pressure

• Removable perforated face uses concealed spring clips

• 50% free area.

Options

• Black painted back pan and deflectors

• Aluminum or SS 304 face only,

• SS 304 construction – entire diffuser

• Custom or optional colors (RAL codes to be provided)

• Model OBD opposed blade volume control damper (square necks)

Selection Procedure

Selections can be made by means of a straight read-off from the "Performance Data" for the selected model.

• Determine air diffusion pattern required and air volume flow rate per outlet.

• Establish the required Throw (Refer Notes for Throw Pattern)

• Opposing Diffusers : Maximum Throw for each diffuser should be no more than 75% of half of the distance between them.

• Select the diffuser based on required Air flow rate against the limiting pressure drop and sound level requirements.
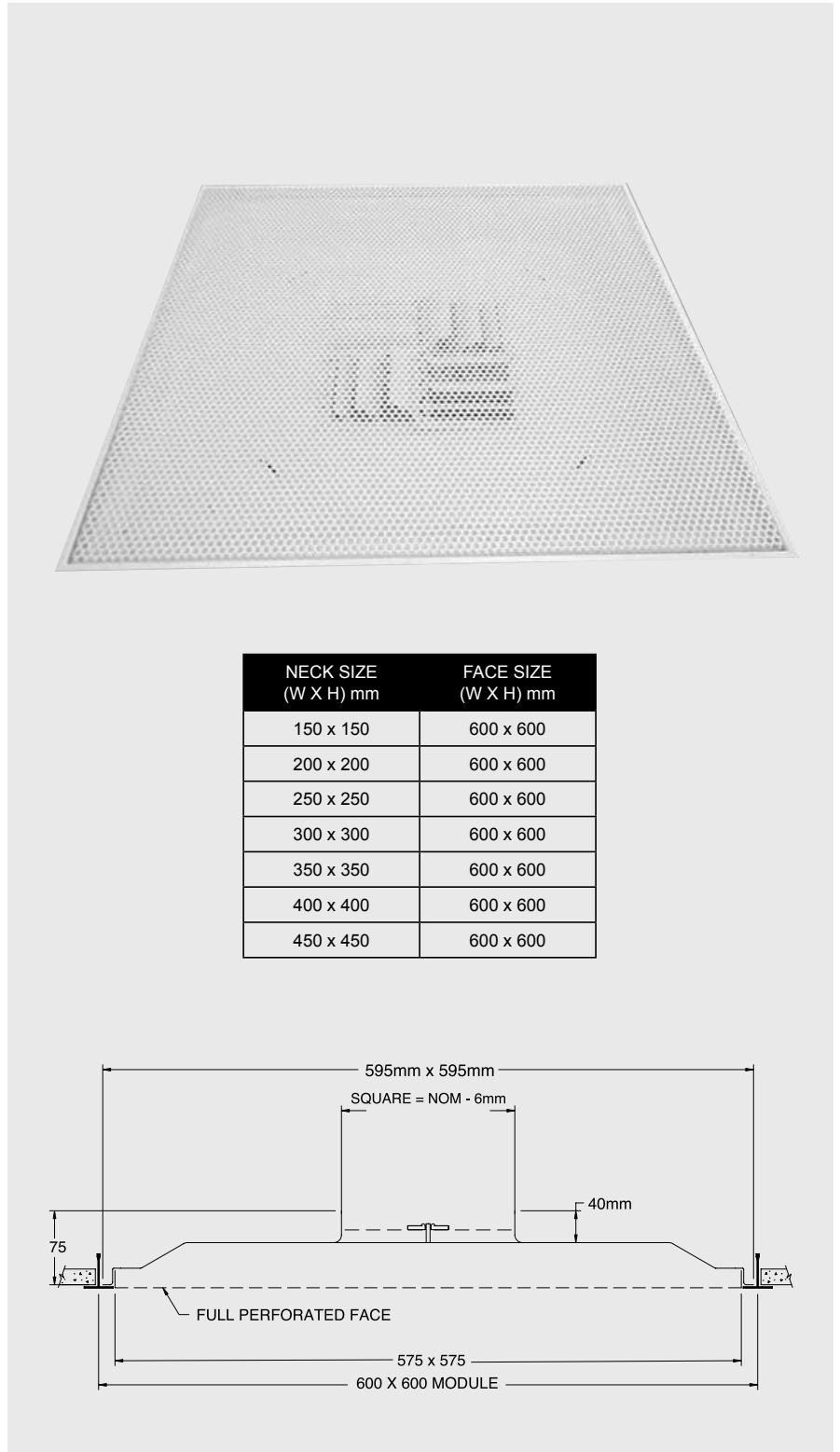
NECK SIZE (W X H) mm	FACE SIZE (W X H) mm
150 x 150	600 x 600
200 x 200	600 x 600
250 x 250	600 x 600
300 x 300	600 x 600
350 x 350	600 x 600
400 x 400	600 x 600
450 x 450	600 x 600

595mm x 595mm
SQUARE = NOM - 6mm
40mm
75
FULL PERFORATED FACE
575 x 575
600 X 600 MODULE

Product Selection Check List

• Select inlet diameter or neck size (LxW) based on desired performance characteristics.

• Select face size based on ceiling module.

• Select volume control accessories if desired.

• Select Finish

Square Neck Supply 600 x 600mm Module size

NECK SIZE (mm)	Neck Velocity (m/s)	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	6.0
	Pv, (Pa)	2.5	2.5	5	5	7.5	10	12.5	15	22.5
225	CMH	128	170	213	255	298	340	383	425	510
	Ps	2.5	5	5	7.5	12.5	15	20	25	35
	NC	<20	<20	<20	<20	23	27	30	33	39
	Throw (M)	0.0 - 0.3 - 0.6	0.3 - 0.6 - 0.9	0.3 - 0.9 - 1.5	0.6 - 1.2 - 1.5	0.9 - 1.5 - 1.8	0.9 - 1.5 - 2.1	1.2 - 1.8 - 2.4	1.5 - 2.1 - 2.7	1.5 - 2.4 - 3.4
300	CMH	230	306	374	451	527	604	680	757	910
	Ps	0	2.5	2.5	5	7.5	7.5	10	12.5	20
	NC	<20	<20	<20	21	25	29	33	36	41
	Throw (M)	0.6 - 0.9 - 1.5	0.9 - 1.5 - 1.8	1.2 - 1.8 - 2.1	1.2 - 2.1 - 2.4	1.5 - 2.1 - 2.4	1.8 - 2.4 - 2.7	2.1 - 2.4 - 3.0	2.1 - 2.7 - 3.0	2.4 - 3.0 - 3.4
375	CMH	357	476	587	706	825	944	1063	1182	1420
	Ps	2.5	5	7.5	10	15	20	25	30	42.5
	NC	<20	<20	25	30	35	39	42	45	51
	Throw (M)	0.6 - 0.9 - 1.2	0.9 - 1.2 - 1.8	1.2 - 1.5 - 2.1	1.2 - 1.8 - 2.7	1.5 - 2.4 - 3.0	1.8 - 2.7 - 3.7	2.1 - 3.0 - 4.0	2.1 - 3.4 - 4.3	2.7 - 4.0 - 5.2
450	CMH	510	680	850	1020	1190	1360	1530	1700	2040
	Ps	2.5	5	10	12.5	17.5	22.5	30	37.5	52.5
	NC	<20	<20	23	28	33	37	40	43	48
	Throw (M)	1.5 - 2.1 - 2.7	1.8 - 2.7 - 4.0	2.4 - 3.7 - 4.6	2.7 - 4.3 - 5.2	3.4 - 4.9 - 5.5	4.0 - 5.2 - 5.8	4.3 - 5.5 - 6.1	4.6 - 5.8 - 6.7	5.2 - 6.1 - 73
375	CMH	697	927	1156	1386	1624	1853	2083	2312	2780
	Ps	2.5	7.5	10	15	20	25	32.5	40	57.5
	NC	<20	23	29	34	39	43	46	49	54
	Throw (M)	1.2 - 1.8 - 2.1	1.5 - 2.1 - 3.0	1.8 - 2.7 - 3.7	2.1 - 3.4 - 4.6	2.7 - 4.0 - 5.2	3.0 - 4.6 - 6.1	3.4 - 4.9 - 6.7	3.7 - 5.5 - 7.3	4.6 - 6.7 - 8.8
450	CMH	910	1207	1513	1811	2117	2414	2720	3026	3630
	Ps	5	10	15	20	27.5	37.5	47.5	57.5	82.5
	NC	<20	25	31	36	41	45	48	51	56
	Throw (M)	1.5 - 2.4 - 3.0	2.1 - 3.0 - 4.3	2.7 - 4.0 - 52	3.0 - 4.9 - 5.8	3.7 - 5.5 - 6.1	4.3 - 5.8 - 6.7	4.9 - 6.1 - 7.0	5.2 - 6.4 - 7.3	5.8 - 7.0 - 8.2
600	CMH	1148	1530	1913	2295	2678	3060	3443	3825	4590
	Ps	5	10	15	22.5	30	37.5	47.5	60	85
	NC	<20	26	32	38	42	46	49	52	58
	Throw (M)	1.8 - 2.7 - 3.7	2.4 - 3.7 - 4.9	3.0 - 4.6 - 5.8	3.7 - 5.5 - 6.4	4.3 - 6.1 - 7.0	4.9 - 6.4 - 7.3	5.5 - 7.0 - 7.9	5.8 - 7.3 - 8.2	6.4 - 7.9 - 9.1

Notes :

Pv — Velocity Pressure, Pa

Ps — Static Pressure, Pa

Nv — Neck Velocity, meter per second

CMH — Volumetric air flow rate, cubic meter per hour

NC — Noise Criteria based on sound pressure levels with 10 dB room absorption re: 10^-12 watts.

Throw — Distance in meters, based on isothermal air

Velocities of 0.75 m/s, 0.5m/s and 0.25m/s respectively.

Performance Data in accordance with ASHRAE Std 70-91.

Typical Specification

Furnish and install KMC Model PD-F perforated supply diffusers to match ceiling system type located as shown on plans. The diffusers shall have a nominal 600mm x 600mm formed back pan with a square or round neck for supply duct connection, and shall include earthquake loops. 4-way Pattern control vanes shall be attached to the back pan. Deflectors or vanes attached directly to the perforated face are not approved. Pattern adjustment shall be made by removing, rotating, and reattaching the vanes to the back pan. Diffusers requiring closure of louvers/vanes or utilizing blank-offs for pattern adjustment are not approved. (Optional) Volume dampers shall be located in the neck of the diffuser for balancing. The perforated face plate shall be constructed of minimum 22 gauge steel or Aluminium with not less than a 50% free area pattern.

The face plate shall be removable from the back pan by concealed spring clips. The face shall lie in the same plane as the bottom surface of the ceiling in which it is mounted.

Finishing shall be KMC standard Colour (RAL9010) or colour as scheduled or selected by the Architect